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IN THE UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF NEW YORK

MIDWAY MANUFACTURING COMPANY: Deposition of
vs. : Ralph Baer
THE MAGNAVOX COMPANY :
and : 74C1030
SANDERS ASSOCIATES, INC. :

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION
THE MAGNAVOX COMPANY, et al :

vs. :
BALLY MANUFACTURING
CORPORATION, et al :

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF CALIFORNIA

ATARI, INC. :
vs. :
THE MAGNAVOX COMPANY :
and :
SANDERS ASSOCIATES, INC. :

FILED
OCT - 8 - 1978
U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

ERNEST W. NOLIN & ASSOCIATES
General Stenographic Reporters
369 ELGIN AVE., MANCHESTER, N. H. 03104
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ORIGINAL

Continued deposition taken
pursuant to subpoena and notice at the Sanders Associates,
Inc.; Headquarters, Spit Brook Road; Nashua, New
Hampshire; Tuesday, November 25, 1975; commencing at
ten o'clock in the forenoon.

PRESENT:

For Midway Manufacturing
Company, Bally Manufacturing
Corporation and Empire:

Donald L. Welsh, Esq., and
A. Sidney Katz, Esq., 135 South
LaSalle Street, Chicago,
Illinois.

For Atari, Inc.:

Thomas O. Herbert, Esq.,
160 Sansome Street, 15th Floor,
San Francisco, California.

For Sanders Associates, Inc.,
and Magnavox Company:

James T. Williams, Esq.,
77 West Washington Street,
Chicago, Illinois.

For Sanders Associates:

Louis Etlinger, Esq., and
Richard I. Seligman, Esq.,
Daniel Webster Highway, South,
Nashua, New Hampshire

For the Magnavox Company:

Thomas A. Briody, 1700 Magnavox
Way, Fort Wayne, Indiana

Stenotype Reporter:

Ronald J. Hayward

MR. WELSH: Mr. Williams,

after discussion off the record, I understand that you are willing to enter into a stipulation with respect to the deposition of Mr. Baer taken yesterday; would you please read into the record

the stipulation which you are willing to enter into?

MR. WILLIAMS: The stipulation

which we discussed is as follows: The parties Magnavox and Sanders agree that the deposition of Ralph H. Baer taken on November 24, 1975, will be treated as though it was taken before an officer authorized to administer oaths by the laws of the place where the examination was held. We have also agreed with Mr. Welsh and Mr. Katz to put

that stipulation in written form at a later date.

MR. WELSH: Thank you. So

the record will be complete, the purpose for construction that has been requested from counsel for

Magnavox and Sanders was because of the reporter,

Charlotte Rosati, who was the reporter for the deposition yesterday, November 24, apparently is a resident of the State of Massachusetts; and while apparently certified to act as a reporter under the laws of New Hampshire, may not also be authorized to administer oaths in New Hampshire.

RALPH H. BAER

called as a witness, having been previously sworn, was further examined and continued his testimony as follows:

(Interrogatories by Mr. Welsh.)

Q. Mr. Baer, returning to that portion of the testimony yesterday relating to the computer of Digital Equipment Corporation which was used on the Saturn V Program, was a display of Digital Equipment Corporation available with that computer?

A. No, sir.

Q. The only display that Sanders had that was used with that computer was the one of Sanders Construction that you testified to yesterday?

A. That is correct.

Q. Were you in a position to know whether a DEC display

was delivered with the DEC computer?

A. Yes, I was, there was none delivered.

Q. How were you in a position to know that?

A. Several ways: Since I was closely enough associated with the program, I remember that there was no such display. Secondly, it isn't reasonable to speak of the delivery of a display in this situation because the whole system was a custom configuration against a NASA requirement. Neither the computer nor the displays were anything approaching standard hardware.

Q. As one of the components of that display, you listed a digital interface connecting the console with the digital processing system?

A. Yes, sir, to be requests from the digital system.

Q. What was the function of the digital interface?

A. To communication^e commands, requests initiated by the console, ^{or} operation from the console to the system, as, associated memory.

Q. By system, you mean the computer?

A. No, by system I mean the overall system of which

the computer is a component. but I might be confused

Q. Did that interface also have any other function?

A. No, sir.

9 Q. Did it function as a path of communication from the computer to the cathode ray tube?

A. Indirectly, yes.

10 Q. How did it do that indirectly?

A. Well, certainly commands to display certain information, such as a format on the CRT display via shipping digital messages to a digital system, requesting it to send back that information from one form of storage or another, is a way of indirectly placing information on this screen by local command. It is a normal digital systems function.

11 Q. Did you say commands to the digital system?

A. Commands to or requests from the digital system, yes.

12 Q. And what was the digital system?

A. The entire system including the processor, interfaces, associated memory.

13 Q. Was information transferred from the output of the computer to the cathode ray tube?

A. No, sir. Output from the computer might be applied to direct the function of the character generator

or some other portion of the display.

14 Q. You say it might be?

A. Well - - -

15 Q. Did the computer have an output?

A. Certainly.

MR. WELSH: Excuse me, I didn't
permit him to finish answering the other question,
would you read the other question?

(Whereupon, the previous
question was read back
by the reporter.)

THE WITNESS: It was.

16 Q. What was the output of the computer?

A. A bit stream of digital commands - words.

17 Q. And how was that output used?

A. To initiate action of elements of the display
system.

18 Q. Is your answer complete?

A. Yes.

19 Q. What elements?

A. Such elements as the character generator, status
lights on the console, the activation of remote

hard copy equipment. There may have been others which I don't recall.

20 Q. How many bits in each word of the computer output were there?

A. I don't recollect, Mr. Welsh. I would have to guess.

21 Q. Then guess.

A. Only as a guess, twenty-four bit words seems to stick in my memory. That is only a guess.

22 Q. What happened when the computer output was applied to the character generator?

A. The character generator responded by outputting analog voltages which in turn were applied to the X and Y deflex^{ion} amplifiers and produced corresponding symbols on the screen. *

23 Q. So the computer output was used at least in one respect through various components to produce symbols on the screen?

A. Yes.

24 Q. In order to do that, did the computer output include information identifying locations on this screen which were to be illuminated by the cathode ray tube electron beam?

A. Yes.

25 Q. Did those locations have X and Y coordinates?

A. Those locations had X and Y coordinates, yes.

26 Q. So the information for the various points which were illuminable were X and Y coordinates. How many X locations were available at the output of the - in the output of the computer?

A. I do not remember the resolution of the system.

27 Q. What do you mean by resolution?

A. How many addressable points in X and Y the system was designed for.

28 Q. But it was an infinite number?

A. Yes, sir.

29 Q. Being an infinite number, were not or was not each addressable location upon illumination of a beam to illuminate - I mean, upon unblanking of the beam to illuminate a point - would there not be a discrete point?

A. Yes, instantaneously.

30 Q. Were not then the characters which were generated on the screen of the CRT made up of discrete points? For an "n," it would be made up of discrete points?

A. Yes, sir.

31 Q. Did they appear as discrete points or did they overlap in the generation of the character?

A. They appeared as continuous lines.

32 Q. That, then, would have been a result of overlapping of adjacent points?

A. No, sir. That is the result of a continuous sweep of an unblanked beam on a CRT. The beam ~~is~~ ^{was} not pulsed.

33 Q. Do I understand correctly, then, that in the generation of a single character, the beam remained on during a movement throughout the path required to generate the character?

A. No, sir.

34 Q. Would you explain what did happen, then?

A. Yes. The beam stays on for periods required to form contiguous portions of the character and may be blanked temporarily to jump to some other position to form the remaining ^{der} of that character.

35 Q. For a zero, then, it would have remained ~~on~~ on during the tracing of the entire character?

A. Yes, sir.

36 Q. But perhaps for an "H," it would remain on to trace one horizontal line and perhaps be blanked until

the start of another portion?

A. That is correct.

Q. Was the screen divided into locations where an entire - each of which would be large enough for an entire character?

A. I don't remember the detail function of the system well enough to answer that, Mr. Welsh.

Q. I am having difficulty just understanding how I guess the information from the computer is utilized in the character generator to provide the analog voltages which then are applied to the deflexion amplifiers. When say a word was being written on the screen and one letter was finished and the beam then went to the position for the - I mean the deflexion was, whether beamed or unblanked - was erected and the proper voltages were applied to direct it to the location for the next letter, assuming that the next character was a letter, was a signal then applied from the character generator to generate all possible characters and then one being selected that was desired for that location?

A. Which, I object to. MR. WILLIAMS: I object to -

the question; I don't understand it.

MR. WELSH: Well, maybe the witness understands it. Do you understand the question?

THE WITNESS: Yes, I do, Jim.

MR. WILLIAMS: All right; answer it, then, if you understand it.

THE WITNESS: The character generator in the Saturn V display system had a discrete printed circuit card for each character in the repertoire which had as I stated yesterday, in hard wired components, the information required to produce the X and Y voltages of the corresponding symbol. Does that answer your question, Mr. Welsh?

39 Q. It does partly. If I understand correctly, then, each character does have a separate printed circuit card with components which when that card or portion of the circuit relating to that character is activated, then it results in the appropriate voltages for the deflexion amplifiers to produce the character. How was it determined where the character appeared on the screen?

A. Mr. Welsh, I do not recall specifically how that

was accomplished in the Saturn V system.

40 Q. Do you recall in any way?

A. Well, generalizing, the positioning of the displayed information is customarily accomplished by sending a digital word which contains the positional information and then in the case of an X-Y random access displays, ^{developes} ~~shows~~ a corresponding X and Y voltage corresponding to ^{a position} ~~these~~ on the screen where you would like to start tracing the next symbol. *

41 Q. That is a portion, then, of the information in the output of the computer?

A. Yes.

42 Q. What was the shape of the cathode ray tube screen?

A. The physical envelope itself, Mr. Welsh, or the display on the CRT screen? WILLIAMS:

43 Q. Well, the visible portion of the CRT screen.

Well, again I ask if MR. WILLIAMS: I object to the question as vague.

44 Q. Well, as I understand it, the screen - well, what is the screen of the cathode ray tube?

A. Well, cathode ray tubes are either ^{rectangular} ~~rectangle~~

with a 4 by 3 aspect ratio or they are round. In

this case, a rectangular tube. then Mr. Williams:

45 Q. 4 by 3 ratio, you mean?

A. Right, the width and height ratio is typically
4 by 3 in cathode ray tubes.

46 Q. Was the entire area of the screen available for
illumination with information coming from the
computer? That is, in the computer output.

MR. WILLIAMS: I object; I
believe the question has been asked and answered.

THE WITNESS: That is correct,
it has been answered.

47 Q. And I believe you stated it was?

A. Yes.

48 Q. Were there then addresses or available locations
which were off the screen?

MR. WILLIAMS: I object; I
again find the question vague.

49 Q. Well, again I ask if the witness understands it?

A. I do not.

50 Q. Were there equal numbers of X coordinates and
Y coordinates available to identify locations of
illuminable points?

A. No, sir.

51 Q. Were there more X coordinates than Y coordinates?

A. I do not recall, Mr. Welsh.

52 Q. Well, why do you say no to the other question?

A. All material, all data or signals that were generated for display were generated for a display within the visible portion of the CRT.

53 Q. And you don't know whether it was possible to generate signals for portions that were not visible; that is, off of the screen?

A. No, I do not.

54 Q. Was the CRT display in color or black-and-white?

A. Would you please repeat that?

55 Q. Was the CRT display in color or black-and-white?

A. Black-and-white.

56 Q. I believe you stated that that digital computer equipment was located at the Canal Street facility?

A. Yes, to New York.

57 Q. Who was in charge of the computer during that time?

A. I do not recall, Mr. Welsh. There was a large program group involved in this program and I don't remember the individuals.

58 Q. Was that computer used only for the Saturn V

A. Program?

A. Yes, a dedicated machine.

59 Q. Who would know who was in charge of that computer?

A. The program manager that ran the program at the time.

60 Q. Who was the programmer at the time?

A. You mean the program manager?

61 Q. I may have misunderstood your answer.

A. The program manager was my answer.

62 Q. I thought you said and the programmer.

A. No, the program manager.

63 Q. Do you know the names of any of the programmers for the computer at the time?

A. No, sir, I do not.

64 Q. Going back to the period in August of 1966 and around that time, how frequently did you make trips to New York?

A. Rarely.

65 Q. Once a week?

A. No, much more rarely than that.

66 Q. Once a month?

A. Perhaps, perhaps less.

67 Q. Did you make any trip in July of 1966?

A. I couldn't possibly recall that now.

68 Q. How about September?

A. I don't know.

69 Q. How did you happen to fix August, 1966, as the date when you did make a trip if you don't remember that you made one in July and you don't remember making one in September?

A. Simply because I recorded on September 1 of '66 several pages of the ideas which I had had at some time before that date taking place in August.

70 Q. Then did you assume that if you recorded the concept in September, that it probably was in August?

A. That is correct.

71 Q. Since August, was the next month prior to that?

A. That is correct. You are

72 Q. Do I understand correctly, then, that there is really nothing other than that by which you determined the August date?

A. You are correct, sir.

73 Q. When you say you are in the bus station waiting for your - the other employee from Sanders - do you recall whether you had a long wait?

A. Yes, I did.

- 74 Q. Do you recall the reason for that?
- A. I do not recall the reason.
- 75 Q. Were there visible to you in the terminal while you were waiting any television receivers?
- A. No, sir.
- 76 Q. Were there in the terminal any coin-operated amusement devices?
- A. No, sir.
- 77 Q. Prior to that time, had you ever seen any coin-operated amusement devices?
- A. No.
- 78 Q. Now, perhaps you have a different meaning for coin-operated amusement devices than I do. What does coin-operated amusement devices mean to you?
- A. Devices in which you insert a coin with which you play some sort of a game.
- 79 Q. How old were you in August of 1966?
- A. Forty-four.
- 80 Q. Were you ever in the service?
- A. Yes, the Army.
- 81 Q. The Army?
- A. Yes.
- 82 Q. During what time?

A. World War II.

83 Q. For what period of time?

A. 1943 to '46.

84 Q. And where did you spend that time?

A. One year state-side, two years overseas.

85 Q. Where was the state-side time spent?

A. Ft. Dix, Ft. Belvoir, Virginia, and Camp Richie, Maryland.

86 Q. Where is Ft. Dix, is that in New Jersey?

A. Yes.

87 Q. Did you ever visit any post exchanges at any of those camps?

A. Certainly.

88 Q. Did any of those post exchanges have any amusement devices?

A. They may have, Mr. Welsh, but I didn't notice.

89 Q. Have you ever traveled other than on that occasion at the East Side Terminal in New York in August of '66, have you ever traveled by bus?

A. No, sir.

90 Q. Does the term amusement arcade mean anything

A. to you?

A. It does now, it did not then.

91 Q. What does it mean to you now?

A. It means a room in which there is an aggregate of coin-operated amusement machines with public access.

92 Q. Have you ever seen a pinball machine?

A. Yes, I have.

93 Q. When was the first time you ever saw a pinball machine?

A. I am quite certain that I physically saw pinball machines all through my life, but I paid no attention to them until more recently.

94 Q. Are those that you are sure you have seen all through your life coin-operated devices?

A. I cannot tell.

95 Q. Prior to that time in August, 1966, when you had the idea for the TV games at the East Side Terminal in New York, had you ever seen a cathode ray tube display being used to play a game?

A. No, sir.

96 Q. Had you ever heard of a game called "space war" prior to that time?

A. No, sir.

97 Q. Did you have any associations prior to that time

with computer programmers?

A. I did not, sir.

98 Q. Your work in connection with the Saturn V project did not include contact with computer programmers?

99 A. No, sir.

100 Q. Was the work on the Saturn V project prior to the time in August of '66 when this idea came to you?

101 A. Mr. Welsh, I believe I testified yesterday that I could not recall the precise dates during which the Saturn V job began, so I can't answer the question any more precisely than that.

102 Q. I believe you did say the mid-sixties, though?

103 A. Yes, that is correct.

104 Q. Do you recall what projects you were in contact with; that is, projects or tasks of your division you were in contact with, at this period in 1966 - say roughly August, September?

105 A. I find that impossible to recollect, Mr. Welsh.

106 Q. You have no idea of any program, task or project with which you had contact at that time?

107 A. That is correct, I do not.

108 Q. Are there any documents which, if you had them

before you, would refresh your recollection as to what tasks or programs or projects you were in contact with at that time?

A. Yes.

104 Q. What documents?

A. There may be reports, possibly interoffice memos residing in somebody's file. I personally do not keep copies of documents for more than two or three years because it is physically impossible.

105 Q. How would the reports to which you refer be filed?

A. They would reside in some individual's personal file.

106 Q. Are projects or tasks or programs at Sanders given any identification?

A. Yes.

107 Q. What is the term or what are the terms that are used to designate one task from another? Do you differentiate one task from another? Do you have such a term as task or program?

A. Yes, a variety of terms.

108 Q. What are they?

A. Contract numbers, contract task codes.

109 Q. Is that all?

A. Yes. Well, in practice there are many subsidiaries, subtask codes.

110 Q. Any others?

A. No, sir.

111 Q. No others?

A. Well, task codes result in a variety of internal documents that move work or work orders as in any other organization, but the primary method to get back to a program is through the contract number and the major task numbers assigned to that program.

112 Q. When you say contract number, are you referring to military contracts or other contracts?

A. Yes.)

113 *M* There weren't any others that I was involved in at the time. Through ...

114 Q. I am not speaking of any particular time, I am speaking of whether there is some system of identifying tasks or projects or programs; and so far you have referred to military contract numbers and then contract task codes and subtask codes. In the ...

A. Well, the task codes would exist regardless of whether

the program was a military or a commercial one.

115 Q. So you had commercial programs as well as military
programs?

A. By we, you mean who, Mr. Welsh?

116 Q. Well, I am trying to find out. We were talking
about Sanders Associates.

A. I can only speak for my division in this connection.
The programs in my division at the time were all
military.

117 Q. Did you have anything to do with any other program
that was not military during that time that you
were division manager?

A. I do not recall, Mr. Welsh. I would say it is
highly unlikely.

118 Q. Your work for Sanders Associates during the
period 1966 through 1971 was solely in connection
with military contracts?

A. No, sir.

119 Q. What other work did you do that was not in
connection with military contracts?

A. We supported from my division, design work for
groups in the company with commercial customers
of various types.

120 Q. Was that work done in any particular kind of task number or program number or job number?

A. Under a task number.

121 Q. So there were task numbers other than for use in projects, jobs, other than military?

A. That is correct, I already stated that.

122 Q. With the same task codes that were used with military contracts?

A. Similar, multiletter task codes.

123 Q. Were there identifying job or program numbers other than the task codes for that work that was done for the groups with commercial customers?

A. I don't believe I understand that question, Mr. Welsh.

124 Q. Well, you have stated that military programs were identified by contract numbers; was the design work for personnel of your division for groups in the company with commercial customers done under any program or task corresponding to a government contract program?

A. Every contract with an external customer involves that customer's contract number.

125 Q. Was any nonmilitary work done without any contract?

126 A. I do not do work without contracts.

Q. So the design of the display for Sanders' data systems was all done in connection with contracts, is that correct?

A. No, sir, I must correct that; certainly some of that work may have been the result of IR and D investigations.

127 Q. Now, I have only given you one example such as the displays for the Sanders data systems, are there other noncontract types or were there types of programs such as that relating to - those relating to the displays for the Sanders data systems?

A. By that, Mr. Welsh, you mean programs in any division?

128 Q. No.

A. In the company?

129 Q. Yes.

A. Yes, there were.

130 Q. And how were they identified?

A. In the same manner, task codes.

131 Q. But did they have any other identification than the task codes which you say were applicable to

contract and noncontract matters?

SSI
A. Yes, the contracts might have gone by acronyms, but they would not be official designations. Contracts were identified by task codes assigned to them.

132 Q. So a task code might be assigned to a contract that was not used with other projects and contracts?

SSI
A. A task code is specifically assigned to a specific program.

MR. WELSH: Could you give me his answer before my last question?

(Whereupon, the requested answer was read back by the reporter.)

SSI 133 Q. You stated a task code is specifically assigned to a specific program; then, program, I take it, is a term used in connection with contracts or work at Sanders?

SSI
OEI
131 A. Program is a term used sometimes interchangeably with task to define either programs that result from a contract or to define IR and D activity or from a defined overhead activity.

MR. WELSH: Will you read the first part of that answer, please?

(Whereupon, the previous answer was read back by the reporter.)

134 Q. Do I understand correctly, then, that there are three categories of programs or tasks, those resulting from contracts, others from IR and D assignments and others are defined overhead activities? means that you have been assigned

A. Yes, sir.

135 Q. In the identification of such programs, how is that done, by numbers, letters?

A. By task numbers.

136 Q. Who assigns the task numbers? different dates? MR. WILLIAMS: I object to the question as being vague and it is not tied to a particular time.

MR. WELSH: Well, I am trying to determine what is the system, if any, at Sanders. Is there a system now?

same place?

MR. WILLIAMS: I object to

the question. Is there a system for what?

MR. WELSH: Assigning numbers.
The subject matter of the previous question.

THE WITNESS: Yes, there is.

137 Q. And is there more than one system now?

A. Yes.

138 Q. How many systems are there?

A. I don't know, Mr. Welsh.

139 Q. How long have those systems been in effect?

A. Many years.

140 Q. During the years that you have been associated
with Sanders?

A. Yes, indeed.

141 Q. During the period when you were division manager,
but not limiting your answer to only to work of
the division, who assigned task numbers in these
different categories?

A. There is no specific answer to that, Mr. Welsh.
A task can originate at many different levels
within the organization. You would have to be
specific for me to answer it specifically.

142 Q. Do all contract task numbers originate at the
same place?

A. Yes, they do, the contracts department - the overall task number.

143 Q. Is that just military contracts or does that include - as distinguished from military, commercial contracts?

A. It would include all contracts.

144 Q. And how about IR and D task numbers, who assigns those?

A. The corporate director of IR and D.

145 Q. That is Mr. Campman?

A. That is correct.

146 Q. And who assigned the numbers in the category of defined overhead activities?

A. If there is an assignment of a number, it would most likely be made by department manager or division manager depending on the circumstances.

147 Q. And by the accounting department?

A. No, sir. Let me clarify, there are in existence a series of overhead account numbers which are generic and available for use as defined by company policy.

148 Q. Those overhead account numbers correspond to task numbers?

A. That is correct, they would be used as task numbers to cover activity.

149 Q. Now, going back to the start of this discussion when I was trying to determine what projects and tasks you were in contact with during the months of July, August and September of 1966, would it be possible or are those projects and tasks, were they identifiable by the types of numbers we have been talking about?

A. Yes.

150 Q. Other than the personal files which you referred to of people who might keep the reports, is there any system for keeping the reports?

A. I am sure it could be found in the contract department's files.

151 Q. Or IR and D files?

A. Yes.

152 Q. Would it be possible for you to go to such files and determine what projects and tasks you had contact with during those three months?

A. Yes.

153 Q. Did you keep any logs or diaries of your personal time during that period?

A. During which period, Mr. Welsh?

154 Q. Well, I was speaking just now of the period of
July, August and September of 1966.

A. I do not keep logs of my time.

155 Q. You did not?

A. I did not keep logs.

156 Q. Have you ever kept logs?

A. No.

157 Q. Did you keep any records of what you were doing,
first during that three-month period of '66?

A. No, sir.

158 Q. You had no system?

A. Excuse me, may I go back on that? Did you ask
whether I kept records at the time or whether
I now am keeping records of what I did in that
period of time?

159 Q. I asked you if you kept records during that period
of time?

A. Certainly.

160 Q. What were those records?

A. Whatever the daily interoffice memos, work orders
or other pieces of paper that are incident to any
normal business operations were at the time.

161 Q. But you no longer have those?

A. No.

162 Q. In describing the motivation or motivations for your TV game idea, you referred to the ubiquitous existence of television sets, raster scan devices and monitors wherever you look, what does ubiquitous mean?

A. It means abundant, located everywhere, all over.

163 Q. With respect to television sets, where did you find those located?

A. At the time, it was common knowledge that there were some 60 million-plus TV homes in the United States alone.

164 Q. Receivers in homes?

A. In the United States homes alone, to say nothing of the rest of the world.

165 Q. Referring to raster scan devices, did you have that term in mind in the east side bus station in New York in August of 1966?

A. I don't recall.

166 Q. Where were the raster scan devices that you referred to located at that time? You referred to ubiquitous existence of raster scan devices and

where were those devices located at that time?

MR. WILLIAMS: I object to the question as containing a mischaracterization of his testimony. He said ubiquitous consisted of three separate things.

MR. WELSH: That is right, and I am now referring to raster scan devices and I am asking what raster scan devices he knew about at that time and where they were located.

THE WITNESS: May I answer?

MR. WILLIAMS: You may answer.

THE WITNESS: Raster scan devices such as videomonitors were in extensive use in schools, universities, hospitals, other public places. Certainly airports in 1966; I might add in bars.

167 Q. I beg your pardon?

A. I might add bars, restaurants.

MR. WELSH: Could I have that answer back, please?

(Whereupon the previous question and answer were

read back by the reporter:)

MR. WELSH: You used the term TV sets and you also used the term TV monitors, what do you mean by monitors?

THE WITNESS: ^A~~The~~ TV monitor is identical to a TV set with exception of the RF portions of a TV set which is not present or necessary in a monitor since it is directly accessed by video.

168 Q. What do you mean by RF?

A. Radio frequency carrier waves such as those broadcast.

169 Q. What function does the radio frequency portion of a television receiver have?

A. To take a signal which enters its antenna terminals on an RF carrier, ^{amplify it}~~amplifier~~ and eventually demodulate it and reconstitute the video portion.

170 Q. That portion of a television receiver is neither present or necessary in a monitor?

A. That is correct.

171 Q. Did you say video monitor?

A. In my mind, those terms are synonymous.

172 MR. WELSH: Off the record.

(Discussion off the record.)

(Whereupon, the luncheon recess was taken.)

(Whereupon, Sanders' Exhibit

No. 9 consisting of 291 pages, was marked for identification.)

172

Q. (By Mr. Welsh) Mr. Baer, prior to August of 1969, when you first had your idea regarding the TV games, how did you become familiar with the use of monitors in classroom instruction? Were monitors used in schools?

A. Well, I read periodicals, I think I indicated earlier that I have been a member of the IEEE so I understand correctly then that when Broadcast and TV Group for many years since shortly referred to monitors in schools, you were referring after World War II. Also I maintained my electro- medical interests since I was an engineer in that field after coming out of school in the use of

electronics in medicine which certainly has been growing. Monitors, video systems, a natural

A. No, there was certainly no ubiquity of monitors as an adjunct of teaching and that is what they use in operating rooms, and there is occasional literature on that subject.

Q. At that time, Mr. Welsh? So you became familiar with monitors in schools?

173

A. Well, I am sorry to interrupt you, go ahead.

174 Q. My question was, How did you become familiar with the use of monitors in the schools?

A. Well, to begin with, we built monitors as part of the curriculum in the lab in which I worked in Chicago, back in '48-49 in my senior year in school. We also built television sets, all breadboard fashion, but, nevertheless, television sets, monitors for student use. There was a completely equipped studio with TV cameras, monitors, in the building in downtown Chicago. Some attempt was made in those days to use that equipment for classroom instruction.

175 Q. Do I understand correctly then that when you referred to monitors in schools, you were referring to your experience with the use of monitors in 1948 and 1949?

A. Right.

176 Q. Was that a ubiquitous existence of monitors?

A. No, there was certainly no ubiquitous ^{existence} of monitors. There was not a very large number of them. *

177 Q. How many were there?

A. ^{At} That time, Mr. Welsh? *

178 Q. Well, at the time you talked about.

A. 1966?

179 Q. No, 1948 and '49.

A. Not very many, certainly.

180 Q. Now, you also referred to the use of monitors in universities, how were you familiar with such use of monitors? the TV games, how were they used?

A. Well, through reading, I don't distinguish between high schools and universities.

181 Q. Through reading what, the publications of the IEEE?

A. Yes, and probably others; I don't recall.

182 Q. Could you name any particular universities where you were familiar with the use of monitors?

A. No, I cannot. At the time, you mean, in '66?

183 Q. Yes, in 1966 where I believe you made the statement with respect to

A. I cannot recollect that.

184 Q. And how were they used at the universities?

A. In general, monitors are used to disseminate

A. teaching information to multiple classrooms from

A. a single originating source where a TV camera is

located and a lecturer might be making a presentation.

185 Q. You say in general, this is not, I take it, then,
from any specific knowledge that you had?

A. Well, I don't know about the specifics I knew in
'66, too many more recent inputs have crowded that
out.

186 Q. Referring to the period in 1966, when you first
had your idea for the TV games, how were monitors
used in airports?

A. To indicate the departure and arrival times generally
by pointing a camera at a board with hard copy,
typewritten information on it at some central
station and distributing that video information
through cables to monitors stationed throughout
the airport.

187 Q. And speaking about the same time, how were monitors
used in bars?

A. I know of no monitors that were used in bars; if
I left that impression, it is a mistake.

188 Q. Again speaking of the same time, how were monitors
used in restaurants?

A. The same comment applies.

189 Q. You referred to other public places than those
that I have just mentioned, can you think of any

such other public places that you referred to?

This is in connection with the use of monitors back in around August of 1966.

A. No, I can't right now.

Q. Again speaking of the period around August of 1966, do you know of any raster scan devices other than TV receivers and monitors?

A. No. That is incorrect, certainly there are such things as scan converters, raster scan devices, but ^{they} are neither monitors nor TV sets.

Q. Any others?

A. No, sir.

Q. What is a scan converter?

A. A scan converter is a device which receives input in one format and generally delivers its output in another format; that second format could be a raster scan format or vice versa.

Q. You say it converted from one format to another which could be a raster scan format, what other format than raster scan do you have in mind?

A. Random access, direct writing.

Q. Direct writing being different from random access?

A. No, don't know.

195 Q. How long prior to August of 1966 were you familiar with scan converters?

A. I don't recall.

196 Q. Was it a period of more than a year?

A. I do not know.

197 Q. Do you recall when you first became familiar with scan converters?

A. I do not.

198 Q. What were the scan converters used for at that time?

A. For converting radar data from PPI format to raster scan format. I must clarify that, Mr. Welsh, I am not certain that I knew that at the time.

199 Q. Where were such converters used?

A. In military systems.

200 Q. Why were they needed?

A. I can only guess, Mr. Welsh, we do not use them here. Hughes Aircraft is the predominant producer of such equipment.

201 Q. Were they used any place other than in military systems?

A. I don't know.

Q. Did I understand correctly that you could change from random access format to raster scan format or from s.d.-

A. Yes.

Q. Or from raster scan format to random access format?

A. Yes.

Q. We have used the term raster scan, would you define that for us? the format, I see.

A. Well, in this context, a format in which the information is presented in ^asequence of horizontal lines carrying Video ^{axis} "z", ~~access~~ ^{describing} information with a beam in the CRT that is ~~distributing~~ ^{by scanning} each horizontal line ~~running~~ ^{tracing} relatively rapidly to the beginning of the previous line ^{and} just below it, and ~~trace~~ a succession of horizontal lines.

Q. Now, you referred to your definition as being in this context, what did you mean by this context?

A. Well, at the beginning of the explanation, I thought I was going to put the thing in perspective with respect to scan converters; The whole function of a scan converter as I remember it from reading, is to convert an image of one format generally to some other convenient format, and a convenient

format is very often a standard TV raster format for which existing equipment can be used at the display end.

206 Q. Did the term "raster scan" have any different meaning in any other context other than in respect to scan converters?

A. No, not really, it is a generic term.

207 Q. Speaking of the August, 1966, time reference again; were you at that time aware of the use of scan converters anywhere else than in military systems?

A. I did not say, Mr. Welsh, that I was aware of them at the time at all. I have no recollection as to when I became aware of the scan converters from reading. I don't know how I could have left that impression.

208 Q. Then at any time have you been aware of the use of scan converters in anything other than military systems?

A. Oh, yes.

209 Q. What period of time are you speaking of?

A. More recently over the last few years from reading, it has shown that scan converters are used in aircraft control, traffic control systems, and *

clearly used in watching many of the satellite pictures that we see on television every night.

210 Q. Are you aware in such recent years with respect to such scan converters of their use in playing games?

A. No, sir.

211 Q. Just prior to the noon recess, I asked that the reporter mark a folder as Exhibit 9; and, during the recess, to mark successive documents in that folder numerically as 9-1 and 9-2 and so forth.

This folder having on its exterior the numeral "5" in apparently a red ink and then the legend TV game data in chronological order, 1 September-67 and an arrow to 8-21-69, and with the name R. H. Baer in the upper right-hand corner. I hand you this folder and ask you if you recognize it?

A. I do.

212 Q. What do you recognize it to be?

A. A folder of data generated and collected during the development effort on TV games of the period on the envelope. I believe, though, that the date is wrong.

213 Q. What should the date be?

A. The date should be 1 September-66, not '67.

214 Q. Who accumulated the data in that folder?

A. I did.

215 Q. When did you accumulate that data?

A. On a current basis as it was generated.

216 Q. Why did you accumulate the data?

A. Because I was aware of the fact that we were dealing with developments for which patent disclosures were to be written, were required, and I am aware of the fact that one must ~~keep~~ ^{maintain} safeguards of all documents under those conditions, which is what I did. as to TV games that have become

217 Q. When did you learn that patent disclosures were to be written on TV games?

A. I made that assumption as shown by the first commission ^{in (to)} writing on 1 September, '66, which was clearly an indication that I intended this material to go forward and be used in a formal patent disclosures.

218 Q. You knew on 1 September, '66, that a patent application was going to be filed on this TV game idea?

A. I expected that on 1 September, '66, that the ideas would be favorably considered by those

U

responsible at Sanders for making that decision
and that patent applications would be made.

219 Q. Had you discussed it with anybody at Sanders prior
to September 1, 1966?

A. No, sir.

220 Q. So you acquired this belief that patent applications
would be filed without discussing it with anyone
at Sanders?

A. Yes, sir. Memory systems; that is all I know.

221 Q. Have you ever had any ideas other than ideas
relating to TV games that have become the subject
of patent applications? Certainly.

A. Yes, sir. General belief that that is the case.

222 Q. What ideas were those? Were, others -
issued concurrently MR. WILLIAMS: Mr. Baer,

Q. before you continue, if you believe that any of the
ideas which you are going to discuss are confidential
to Sanders or involve military secrets of any

A. kind, don't hesitate to state that. I understand

Q. some of them may be classified and some of them
may not.

A. Yes, sir. THE WITNESS: I will speak

Q. only for the issue patents. I have patents in such

areas as modulation systems for radio frequency transmitters. Mr. Welsh, point of information, ^{do} you wish to know what patents ~~that~~ I had up to that date or total?

223 Q. Let's start with the period up to that date.

A. I have other patents, but I cannot tell you exactly when they were all issued, in such areas as indicating instruments, the application of printed circuits to memory systems; that is all I can recall at present.

224 Q. And those were prior to September, 1966?

A. I cannot say that for a certainty.

225 Q. Is it your general belief that that is the case?

A. Some of them certainly were, others may have been issued concurrently or within a year or two.

226 Q. Well, I am speaking not of the times when you got the ideas that led to the patents but rather the issuance of the patents.

A. I can't answer that, Mr. Welsh.

227 Q. Were there any of these ideas that resulted in

A. ^{in an} patents that you acquired?

A. Yes, sir, in addition to my normal duties.

228 Q. Can you remember which of those indicating instrument

A. The first one I mentioned.

229 Q. That was an RF - - -

A. RF modulation system. The modulation system for RF transmitters. A patent on sweep signal generators.

230 Q. Any others?

A. I don't believe so.

231 Q. To whom did those patents issue as owner of the patent rights?

A. Both of those issued to Transitron, Incorporated.

232 Q. You had applications on indicating instruments, I believe, or at least one?

A. A patent issued, but I don't know - yes, I do know - the ideas for the indicating instrument originated prior to the 1966 date.

233 Q. Where did that idea originate?

A. I don't know.

234 Q. That is when you were employed at Sanders?

A. Yes, that is correct.

235 Q. How do you recall that the idea originated prior to September, 1966?

A. Because I was involved ^{in an} ~~in the~~ altimeter program as program manager in addition to my normal duties in the early '60s and this indicating instrument

was one of the results of that program.

236 Q. When you said normal duties, is that your duties?

A. Department and division manager.

237 Q. Can you think of any other ideas that occurred to you prior to September, '66, that resulted in patent applications?

A. No, I cannot.

238 Q. Did your TV game idea occur to you in connection with your employment at Sanders?

MR. WILLIAMS: Well, I object to the question, it is vague. I don't understand what you mean by the term in connection with.

239 Q. Do you understand the question?

A. No, I do not.

240 Q. Did your idea for TV games have anything to do with anything that you were working on at Sanders at the time?

A. It did not.

241 Q. It was a purely personal thing outside of your company business, then?

A. That is correct.

242 Q. Referring to the cover which has been marked Exhibit 9, did you write the information on that

cover except for the exhibit stamp and number?

A. Yes, I did.

243 Q. What does the No. 5 in a circle indicate?

A. The No. 5 indicates that that is one folder of a series which were arbitrarily numbered.

244 Q. Did you put the 5 in a circle on it?

A. Yes, I did.

245 Q. Were there other folders bearing other numbers?

A. Yes, there are.

246 Q. And what do these series of folders relate to?

A. They relate to other material on ~~the~~ TV games I collected during either that period or later periods.

247 Q. When did you put the No. 5 in a circle on this folder?

A. I do not remember.

248 Q. Did you do it on September 1, 1966?

A. No, sir.

249 Q. Did you do it subsequent to that time?

A. Yes, sir.

250 Q. Did you do it subsequently to the filing of patent applications on the TV game idea?

A. Yes.

251 Q. Did you do it subsequent to the issuance of the
patent No. 3,728,480?

MR. WILLIAMS: I object to
the question as lacking foundation.

252 Q. Are you familiar with patent No. 3,728,480?

A. Yes, I am.

MR. WELSH: I show you a
copy of that patent which I ask the reporter to
mark as Exhibit 10. MR. WILLIAMS.

(Whereupon, Sanders' Exhibit

No. 10 was marked for

identification.)

253 Q. Are you familiar with this patent?

A. Yes, I am.

254 Q. How are you familiar with it?

A. It was issued to me.

255 Q. You are the Ralph H. Baer named as inventor of that
patent?

A. Yes, sir.

256 Q. What date did that issue?

A. April 17, 1973.

MR. WELSH: Mr. Williams,

may we stipulate that copies of U. S. patents may be used in place of the originals with the same force and effect as the originals except for correction of error, if the same should appear?

MR. WILLIAMS: You mean for the purposes of this deposition?

MR. WELSH: Well, for the purpose of this deposition and any purpose.

MR. WILLIAMS. For the purposes of this deposition, certainly we can stipulate to that.

257 Q. Now, I believe the question to which Mr. Williams objected as lacking foundation and which was not answered was, Did you place the 5 in a circle on the front of the folder marked Exhibit 9 at a time subsequent to the issue date of patent No. 3,728,480?

A. Yes.

It was issued. MR. WELSH: I hand the reporter a copy of U. S. Patent No. 3,659,284 which I ask him to mark as Exhibit 11; a copy of U. S. patent No. 3,659,285 which I ask him to mark as Exhibit 12; and a copy of U. S. patent No. 3,778,058 which I ask him to mark as Exhibit 13?

(Whereupon, Sanders' Exhibits
11 through 13 were marked
for identification.)

MR. WELSH: Also I hand the
reporter U. S. Reissue Patent No. 28,507, a copy
of that which I would like him to mark as Exhibit ¹⁴~~11~~; *
and a copy of U. S. Patent No. Reissued 28, 598,
which I would like to have marked as Exhibit 15.

(Whereupon, Sanders' Exhibits
14 and 15 were marked for
identification.)

258 Q. Now, referring to Exhibit 11, a copy of U. S.
Patent No. 3,659,284, are you familiar with that
patent?

A. Yes, I am.

259 Q. How are you familiar with it?

A. It was issued ^{to}~~through~~ William Rusch who worked for
me under my direction during the course of the
development work which this was a part of. *

260 Q. And I show you also Exhibit 12 which is a copy
of U. S. Patent No. 3,659,285 and ask you if you
are familiar with that?

A. Yes, I am.

261 Q. How are you familiar with that?

A. Mr. Rusch, Mr. Harrison, both of whom worked for me, and I myself are coinventors of the patent.

262 Q. What are the issue dates of those two patents, Exhibits 11 and 12?

A. Exhibit 11 has an issue date of April 25, '72; Exhibit 12 has an issue date of April 25, '72.

263 Q. I show you what has been marked as Exhibit 13, a copy of U. S. Patent No. 3,778,058 and ask you if you are familiar with that?

A. I am not familiar with this.

264 Q. You have no familiarity with that patent at all?

A. Not so, I have familiarity with some of the considerations and discussions which resulted in the reissuance, but I haven't seen the actual piece of paper since it was reissued.

265 Q. You say the reissuance?

A. Wait a minute, which one are we talking about; are we talking about No. 13?

266 Q. Yes, at that, the date was so close to the

A. I am sorry, I was in error. No. 13 I am familiar with.

267

Q. You are familiar with it?

A. I am familiar with it.

268

Q. How are you familiar with that one?

A. Because it also is a patent of Mr. Rusch's who did this work. The work which resulted in this invention under my supervision in 1968.

269

Q. What is the issue date of that patent?

A. December 11, '73.

270

Q. Going back now to Exhibit 9 and the five in a circle placed on that exhibit, was that 5 in a circle placed there subsequent to the issue date of Exhibit 13? That is, December 11, 1973.

A. Yes, it was.

271

Q. Did you also place the corresponding numbers on the other files in the series that related to other materials collected on TV games?

A. Individually.

272

Q. What was the occasion of your placing these numbers on these files?

A. I placed the numbers on the files because prior to that act, the data was contained in various locations and my personal file and in an effort to clean it up and organize it, I segregated it

into categories, loosely, and chronologically and
put it into a number of folders.

273 Q. You collected the materials in the various folders?

A. Yes.

274 Q. Did someone ask you to collect that material?

A. I don't recall, Mr. Welsh.

275 Q. You did it of your own volition?

A. I don't know.

276 Q. You state that it was after the issuance of
Exhibit 13 which is Patent No. 3,778,058; do you
recall more specifically when it was?

A. Sometime last year; that is, calendar '74.

277 Q. Was it prior to the filing to these lawsuits?

A. I do not know. I am not familiar with the dates
when the lawsuits were filed.

278 Q. Was the material collected in connection with the
lawsuits?

A. Probably; I cannot specifically answer that.

279 Q. Can you answer it generally?

A. Yes, I am sure I organized the paper work because
I foresaw the need for presenting orderly and
organized material to the patent office at
284 Sanders.

MR. WELSH: May I have that last answer, please?

(Whereupon, the previous answer was read back by the reporter.)

Q. Did anything happen that occasioned you to foresee the need for organizing this material?

A. I do not remember, Mr. Welsh. In order to cut this short, I am quite sure that at the time I either knew of the lawsuits having been started or that they were impending or that they might start and therefore did the natural thing, cleaned up my files.

Q. But you don't remember specifically whether anyone asked you to do that?

A. No, I do not.

Q. Now, I believe you stated that you did this in 1974?

A. That is right.

Q. Do you remember what part of that year?

A. No, I do not.

Q. I will advise you that the first of the lawsuits

involved here was filed on April 12, 1974.

A. I am afraid that doesn't help; I don't remember.

Q. Was there -- did you make a search in connection with the accumulation of this material?

A. Yes, I did.

Q. What were you searching for in that accumulation?

A. As complete a set of lab notes, sketches, memos, anything that was generated in the course of the TV game effort starting with 1 September, '66.

Q. Where did you search for such materials?

A. In my own file and with Mr. Harrison in Mr. Harrison's file.

Q. Did Mr. Harrison assist you in that search?

A. Yes, at times.

Q. Did anyone else assist you?

A. No, sir.

Q. How many files were numbered as this one was numbered?

A. I don't remember the total numbers, they are all here.

Q. But you did start with one?

A. Yes, sir, I did.

Mr. Harrison asked MR. WELSH: Do we have all

those files here, Mr. Williams?

MR. WILLIAMS: Mr. Baer just answered the question, I am not sure. I think he said they are all here.

MR. WITNESS: I am sorry, I am assuming they are all here.

MR. WELSH: Well, could we get them together? I didn't realize the significance of the numbers until right now and I didn't make any arrangement to arrange them in order.

292

Q. We have now assembled other files that apparently were also collected during this search that you made in 1974; I'd like to take those in order. What is the file - how many files are there?

A. Actually there are eight separate sets of documents, if you will, they are not all files. Nos. 5 through 8 are manilla folders. 1 is a hard-bound lab notebook. 2, 3 and 4 are soft cover, bound Sanders notebooks and they are in order.

293

Q. What is the object to which you assign the No. 1, in this search?

A. A hard cover, bound lab notebook is used - rather Mr. Harrison used in the beginning of his

assignment on TV games to copy notes from the first document in folder 5 and then to carry on his daily lab notes (~~as~~ ^{as} on an ["]occurred basis) starting with ^{May} ~~AP~~, 1967.

*
*

294 Q. You did not put a No. 1 and a circle on that book, did you?

A. Mr. Welsh, I haven't found it yet, though I circled the others. I have not found that No. 1 on this book, although it is my recollection that that is No. 1. The others are so marked, 2, 3 and 4.

MR. WELSH: Could we have the first book you described and I would like the reporter to mark this as Exhibit 16 and this book has a label on the outside with the legend ECM373; and printing on the book Sanders Associates Electronic Countermeasures Division, Engineers Notebook. On the inside, ECM373, the word "signature" with something crossed out and the word "error" printed above it and underneath that, the signature William L. Harrison. I would like to ask the reporter to place his stamp for that Exhibit No. 16 directly beneath that entry on the

inside of the cover of this book?

(Whereupon, Sanders' Exhibit No. 16 was marked for identification.)

295 Q. Are there not, Mr. Baer, certain additional sheets of paper included in this notebook that are not bound into the notebook?

A. That is correct.

296 Q. These appear to be either attached by paper clips to certain pages of the book or, are stapled thereto, is that correct?

A. That is correct.

What dates?

MR. WELSH: I'd like to ask the reporter now to go through and mark each of these separate sheets with the first exhibit number, which would be 16, and then a dash and the page number to which the separate sheet is attached and an "A" if there is only one sheet and if there is more than one sheet, successive sheets B, C, D, and so forth; on the front cover of Exhibit 17

certain any indication that it was a part of the (Whereupon, Sanders' Exhibits material that was accumulated by you in 1967)

17, 18 and 19 were marked
for identification.)

MR. WELSH: Let the record
show that three other notebooks which Mr. Baer
testified about were marked respectively as
Exhibits 17, 18 and 19, and loose pages attached to
the bound pages of those books were appropriately
marked with the exhibit number followed by the
page number followed by the letters A, B, C and D
where there were more than one page.

297 Q. I hand you Exhibit 17, Mr. Baer, and ask you if
you would identify that for us, please?

A. Exhibit 17 is a notebook kept by Mr. Rusch.

298 Q. What dates?

A. During the period 10-28-66 to 10-18-67.

299 Q. Do dates appear on the pages of that book?

A. Yes, they do.

300 Q. Do the dates on the pages in the book correspond
to the dates on the cover?

A. Yes, they do.

301 Q. Does the label on the front cover of Exhibit 17
contain any indication that it was a part of the
material that was accumulated by you in 1974?

A. Yes, it does, it has a circled red No. 2 in the upper, right-hand corner of the label.

302 Q. Thank you. I hand you now Exhibit 18 and ask you to identify that, please?

A. This is another of William Rusch's notebooks dated 10-18-67 through 11-29-67 which I numbered and circled in red ink No. 3.

303 Q. In the upper, right-hand corner of its label?

A. Yes, and the dates inside correspond to those on the label.

304 Q. I hand you Exhibit No. 19 and ask, Would you identify that, please?

A. That is another one of Mr. Rusch's notebooks started 11-29-67 and completed 3-1-68 which I marked No. 4 in the upper, right-hand corner in red ink and circled and the dates on the inside correspond to those on the cover.

305 Q. Now, those were taken from a pile of documents which you had indicated included as Items 4, the notebooks which have just been identified and then there were five manilla folders which you numbered successively, then four manilla folders which you numbered successively 5 through 8. We

have already discussed Exhibit 5 and you have identified that generally. Would you take the folder identified with the circled 6, what does that folder contain?

A. The folder contains TV game data, masters prepared for Magnavox and issued 3-24 and 3-25, 1971. It includes designs by William Harrison and drawings by Arthur Fornier, both of Department 14-2340. The folder also contains my handwritten note as follows: "This data describes the TV game box, gun attachment and golf putting attachment which was demonstrated to GE, Sylvania, RCA, Zenith, Warwick and Magnavox during 1969 and 1970 and delivered to Magnavox in 3-71 for use with preliminary designs (to teach Magnavox engineers) of Odyssey equipment." That ends the inscription on the cover.

Q. Are the other things on the cover of this folder - were they made by you?

A. Yes, sir. Wasn't a file which was marked especially for your accumulation MR. WELSH: Could we ask the reporter to mark this folder as Exhibit 20? Just mark the front cover of the folder, we won't attempt to mark the ^{number} pages at this time. Now I

(Whereupon, Sanders' Exhibit

vide No. 20 was marked for

identification.)

Q. Now, take a ^{Harrison} folder No. 7, put in red ink in a circle on the cover; could you tell us what that folder contains?

A. This folder contains notes and interoffice memos and some other data relating to the various visitations by TV receiver manufacturers to Sanders in connection with TV game demonstrations.

Q. Does that contain any information on the tab of the folder?

A. Yes, it says TVG, (which is my abbreviation which stands for TV games), negotiations, GE, RCA, Sylvania and Motorola.

Q. Was that file in existence prior to the time that you put the red 7 in a circle on it?

A. Yes, sir, it was.

Q. Then it wasn't a file which was marked especially for your accumulation?

A. Well, it was in a sense that at the time I decided to use it, since I already had the folder, and

put a ^{number} sequence on it, at least that is how I

reconstruct it.

11 Q. I notice folder 6 which was marked Exhibit 20 bears some information on the tab, what is that?

A. That is Bill ^{Harrison} ~~Harris~~'s handwriting, it says TV game data package, abbreviated, 3-25-71, masters. What that indicates, Mr. Welsh, is that I used a used folder.

12 Q. To accumulate the material that was inside it?

A. Yes.

13 Q. But the same thing was not true of folder No. 7, is that correct?

A. That is correct.

MR. WELSH: Could we have folder No. 7 marked as Exhibit 21?

(Whereupon, Sanders' Exhibit No. 21 was marked for identification.)

14 Q. Was the information on the outside front of the folder of Exhibit 21 placed there at the time that you put the red 7 in a circle?

A. No, sir, it was not.

5 Q. When was that information placed there?

A. Several years earlier. Probably when I collected the data, but I do not recall specifically when.

Q. Now, did you have a folder marked Exhibit 8?

MR. WILLIAMS: Off the record.

(Discussion off the record.)

WELSH

MR. WILLIAMS: Let the record show Mr. Williams handed me a group of papers which are marked "Company Private Data 74C1030" which he states has been taken out of file Exhibit 21 during a previous or in connection with a previous production of Exhibit 21 because it contained confidential material which has subsequently been placed under the protective order. By agreement with Mr. Williams, I will put this back in that file.

MR. WILLIAMS: Fine.

Q. Now, turning to the folder having the circle 8 in red, could you identify that for us, please, Mr. Baer?

A. Yes, Mr. Welsh, that is a folder containing notes and other data relative to discussions we had with individual *active* in the cable TV business, with

relation to TV games.

Q. And disclosure to them of your TV game development?

A. Yes, relative to demonstrations and other disclosures.

Q. Generally for what purpose were those disclosures made?

A. Because it was thought at the time that in addition to other applications, the cable system could make use of television games as one form of entertainment for ~~the~~ ^{their} subscriber's use.

Q. Was this part of your effort to interest others in commercializing the TV game ideas that you had?

A. Yes, it was.

Q. Does it contain any notation on the tab?

A. Yes, it says C. A. T. V. on the tab.

Q. Is there any information on the front of the folder other than the circled 8?

A. Yes.

Q. What is that information?

A. It says in abbreviations, CATV games. Teleprompter negotiations '68, miscellaneous CATV material.

Followed by a list of five dates at which demonstrations were made to various members in the CATV business listed on the cover.

324 Q. Was that other information placed on there at the time you placed the circled red 8 or at another time?

A. It was placed there when the material was first gathered which is a number of years prior to the time I put the circled 8 on the folder.

325 Q. When you made the search in which you accumulated items Nos. 1 through 8, was this folder marked 8 already in existence?

A. Yes, it was.

326 Q. In the form in which it now appears?

A. Yes, it was.

327 MR. WELSH: Would you,

A. Mr. Reporter, please mark this folder as Exhibit 22?

(Whereupon, Sanders' Exhibit No. 22 was marked for identification.)

A.

328 Q. Now there is another folder here that was produced and I hand that to you and ask you if you are familiar with it?

A. I am familiar with the material, they are all lab

329 Q. notes by William Harrison; parts lists, schematics,

and apparently run from 5-2-67 through 6-10-71.

Correction, the last sheet here is 6-28-71. There is another one, I am sorry, 8-24-71. ~~There are~~

328 Q. Those are contained in a folder, are they not?

A. Yes, they are.

329 Q. Does the folder have any identifying information any place on it?

A. On the tab it is identified ^{as} NFGAA and the abbreviation TVG ^{TV} game in red ink. [^]

330 Q. What does NFGAA stand for?

A. NFGAA was one of the IR and D task codes under which TV game work was carried out.

331 Q. Is this an acronym?

A. No, it is not, it is a series of letters assigned to identify a task.

332 Q. Was that folder uncovered in your search in which you accumulated the other items 1 through 8?

A. Yes, it was.

333 Q. Is there any reason - strike that. Where did you

A. find that folder?

334 A. That folder came from Bill Harrison's file cabinet

A. in his office area.

335 Q. When you found it, was it in the condition that it

is in now?

A. Not likely, ^{it} probably contain^{ed} some of this material and there were undoubtedly other manilla folders - with the material span^{ning} ~~of~~ so many years, I cannot be certain what I did - that I simply put all the papers in chronological order and stuck them into this folder since it was convenient and handy.

335 Q. Do I understand that you accumulated papers that are now in this folder?

A. That is right.

336 Q. Did it have that identification on it at the time that you accumulated it?

A. Yes, that is Harrison's handwriting on it and probably contained some of these papers at one time.

337 Q. Is there any reason why you did not assign that folder a number as you did the other items 1 through 8?

A. I don't recall, Mr. Welsh.

338 Q. But you did retain these at the same time?

344 A. I do recall now, the reason is very obvious, we didn't find the papers right at the time or I

didn't find them at the time that I found the first eight, they surfaced later in Bill Harrison's file cabinet right where the others were.

339 Q. Did you make a subsequent search to the one in which you found the items numbered 1 through 8?

A. Yes, that is how we discovered these.

340 Q. When was that search made?

A. Also sometime in calendar year '74.

341 Q. Was that also a search for materials that might be related to the patent in suit?

A. The same answer applies to this as the one I gave earlier in connection with the other material.

342 Q. Do you recall how long after the first search was made that you made the second search?

A. I do not recall.

343 Q. Do you recall the reason for making an additional search?

A. I recall now what happened, Bill Harrison came up with this material and he said, here it is. I said, where did you get it and he said it was missed on the first time around.

344 Q. So you really didn't make a search?

A. No, it surfaced accidentally.

345 Q. So then you added it to the other group?

A. That is correct.

MR. WELSH: I would like to have the reporter mark this folder as Exhibit 23.

(Whereupon, Sanders' Exhibit No. 23 was marked for identification.)

346 Q. Did you determine the manner of arranging these materials in the various folders alone or did you discuss that with someone else?

A. I arranged them alone.

347 Q. Did you find during your search resulting in an accumulation of the materials and the items numbered 1 through 8, find any materials other than those now included in these items?

A. I don't know. I would like to clarify that by saying I don't believe so. All of this, most of it, is original material and not Xeroxed material.

348 Q. Did you in the search find other materials which you did not include with these materials?

A. No, sir.

349 Q. Approximately how long a period was involved in this

search?

A. Off and on, a matter of two weeks.

Q. You didn't just undertake the search on one day and keep at it until you finished?

A. Well, as a matter of fact, I did spend a considerable length of time on successive days on this job, but I have other things to do. Simply because some of the papers are not dated and it was somewhat difficult to put them in context and find out what belonged ^{where} ~~there~~. That is really what took the time.

Q. Then in addition to finding the papers, I take it you attempted to arrange them in some orderly fashion?

A. That is correct.

Q. And this was done on your own in anticipation of a need for it by the patent office at Sanders?

A. I already answered that, I believe that is correct.

Q. What did you do after you completed your search and arrangement of the material in an orderly fashion?

A. It resided in my file for some time and it was

Q. Subsequently turned over to the patent office, to

Mr. Etlinger.

Q: Do you remember how long it resided in your file?

A: No, I don't.

Q: Do you remember when you turned it over to Mr. Etlinger?

A: I do not.

Q: Was it sometime in 1974?

A: Yes, I am certain of that.

Q: Might it have been early of '74 or the middle of '74?

A: I don't know. It more likely - - - I simply can't answer that. I don't recall.

Q: Do you know whether it was before these lawsuits were filed or after?

A: I don't know that either.

Q: I believe you stated that prior to September 1, 1966,

A: the date on a paper on which you reduced your

Q: ideas on TV games to writing, that you had not

discussed your idea with anyone at Sanders; did

A: you discuss it prior to that time with anyone

Q: other than someone at Sanders?

A: No, sir.

Q: Referring to that first writing of the pages, have

they been marked with exhibit numbers?

A. Yes, they have.

Q.. What are the numbers?

A.. 9-2 to 9-10.

Q. Now, when I referred to the writing, you reached in exhibit - the folder of Exhibit 9 and handed me these pages, did you not?

A.. Correct.

Q. And those pages are stapled together?

A.. Stapled and taped.

Q.. Across the top?

A.. Across the top edge.

Q.. Did you write all ^{of} ~~to~~ the material that appears on the pages of Exhibits 9-2 to 9-10? *

A. Yes, I did.

Q. Where did you do that?

A.. In my office at Sanders.

Q. There appear to be punch holes on these pages near the top, is that correct?

A.. That is correct.

Q.. Do you know why those were placed there?

A.. No, I don't.

Q.. When you say that you placed the material on these

pages here at Sanders, what facility of Sanders did you mean?

A. My office on Canal Street.

Q. You may have indicated this before, but I don't recall it. Where is your office located now?

A. I have an office in this building, the South Nashua Building, at the present moment.

Q. Is that where Mr. Cantman's IR and D group is located?

A. Nearby.

Q. Well, within this building?

A. Within this building, that is correct.

Q. I believe you stated that when you were division manager up until 1971, you had an office during part of that time in both locations, here in South Nashua and at Canal Street?

A. Yes, later in the South Nashua Building. Initially at Canal Street simply because this building did not exist in 1966 or '67 to '68.

Q. Is there more than one building on Canal Street?

A. Yes, there are several.

Q. Are they altogether in a complex?

A. Yes, they are. The

Q. Now, would you describe Exhibits 9-2 through 9-10 and tell us what they are?

A. 9-2 through 9-10 are handwritten notes which were made for the purpose of disclosing the TV game concept that I ^{had} ~~have~~ had prior to writing these pages and in general describes TV games as I foresaw them at the moment. It lists some types of TV games that might be played in the future and described in words some possible technical implementation of these concepts.

Q. Now, referring to page 9-2, that contained a statement, "Started 1 September, '66," did you assemble these pages on that date?

A. Yes, I did.

Q. Did you attach them together in the manner in which they are now attached on that date?

A. I don't know.

Q. Now, that contains the statement started 1 September, '66; what did you start on that date?

A. The pages which are before us here.

Q. The entire information?

A. The entries of information on those pages.

Q. Did you enter the information on pages 9-2, 3, 4, 5

and 6 on that date, 1 September, '66?

A. Yes. You omitted 9-7. There is nothing on that page except some notations in the upper right-hand and left-hand corner. I intended to go on and didn't go on.

382 Q. Why did you not go on?

A. I don't remember.

383 Q. That page 9-7 and pages 8, 9 and 10 also contain slash lines diagonally from the upper right to the lower left corners generally, is that correct?

A. Right.

384 Q. Did you place those lines on there?

A. Yes, I did.

385 Q. When did you do that?

386 A. I don't know.

(Whereupon, a recess
was taken.)

386 Q. Turning to Exhibit 9-2, what legend appears on that page?

387 A. It says disclosure back-up data - TVGD, which at that time was my abbreviation for TV games

A. disclosure. R. H. Baer are the next three words.

Started 1 September, '66, and then my signature once more.

Q. You used the term "disclosure back-up data," what do you mean by back-up?

A. Well, the data on which an official Sanders disclosure is based or at least at the time this was written, that data on which a formal disclosure was going to be based because I knew that sooner or later I would have to make out a standard Sanders format disclosure paper.

Q. Had you made out such papers prior to this time?

A. No. Do you mean for other purposes or for this?

Q. No, for any purpose.

A. Certainly.

Q. Patent disclosure?

A. For other patent disclosures, yes.

Q. Were there other projects or ideas which you had such as this TV game idea where you made a

similar recording of disclosure back-up data?

A. At what time?

Q. At any time.

A. Well, in recent years I continued to follow a

A. practice of documenting ideas very carefully.

Q. You say in recent years?

A. Well, since the early days in the TV game business, I don't believe that there was any such piece of paper prior to TV games identified with the words "back-up package" although I am certain there are written notes that were the start of the various disclosures that eventually wound up in patents.

Q. Did you have other ideas?

A. Yes sir.

Q. Prior to this time?

A. Yes.

Q. Did you present those ideas to the company?

A. Yes.

Q. What ideas were those?

A. Those ideas included those items which we previously discussed that resulted in patents that either started or were conceived prior to this date.

Q. And you made patent disclosure forms?

A. Yes.

Q. Did you have disclosure back-up data for those forms?

A. I had written notes for those forms.

Q. Did you prepare a document such as this for those other ideas?

A. No, I did not.

Q. Any particular reason why you did it for this idea and not the others?

A. Yes, there is.

Q. What?

A. I considered it particularly a unique idea and I wanted to do everything that I possibly could to make sure that I would document the ideas and notes on the ideas as thoroughly as possible.

Q. I don't remember exactly how you put it, but I believe you stated that you considered this to be an idea that did not arise as a result of your work, this was a private idea that did not arise as a result of your work at Sanders?

A. That is correct.

Q. Did you feel any obligation under your patent agreement, Sanders' Exhibit 6, to reveal such a private idea for Sanders?

A. Yes, I considered the patent agreement which I signed when I entered the company as obliging me to disclose all ideas generally related to the

electronic field.

Q. Is there any portion of this agreement that you think applies to private ideas such as the TV game idea?

A. I don't believe I understand that, Mr. Welsh.

Q. Well, I believe you stated that you felt an obligation to disclose to Sanders all ideas relating to electronics, is that correct?

A. That is correct.

Q. Is that under any particular portion of the patent agreement that you felt this obligation?

A. No, the patent agreement stipulates that all inventions made that are relevant to the company's business be disclosed and I considered any invention that I made in the electronic field to be potentially in the company's interest and therefore the company's business. It did not occur to me to make it as a private invention at the time.

Q. It did not occur to you to attempt to exploit this commercially as a private endeavor?

A. That is correct. I would like to rephrase that. It occurred to me, but I did not act upon it because I worked for this company and I found myself to be

constrained on one hand to disclose all patentable concepts and, on the other hand, being busy with a full-time job and no practical way to carry the idea forward, except within the confines and the capabilities of the company.

Q. Do I understand correctly, then, that it did occur to you, but you felt that you didn't have the time and the facilities to proceed on your own?

MR. WILLIAMS: I object to the question as a mischaracterization of the witness's testimony.

Q. Is it a correct characterization?

A. No, sir, I believe I stated that I felt obligated under the agreement to turn that information over and that although such thoughts as personally exploiting the idea had occurred to me, I did not act upon it for that reason; and, for the second

Q. reason, the facilities necessary to carry this

A. work on are clearly here and nowhere else were they available to me. *

Q. Did you examine your patent agreement at that time to determine whether you were in fact obligated to the company under the agreement to inform them *

of that TV game idea?

A. No, I did not.

Q. Did you rely on your recollection of what the agreement said in that regard?

A. Yes, I did.

Q. Did you consider whether you had an obligation or not?

A. Yes, since I signed a piece of paper when I entered the company.

Q. So you considered, then, the information in Exhibits 9-2 to 9-10 to be data to back up a patent disclosure which you thought you might have to make in the future?

A. That is correct.

Q. Did you feel any assurance that there would be a need for such material?

A. Yes.

Q. What was the basis of that assurance?

A. I have had considerable experience in the company with operation of the patent department as a member of a patent review committee for many, many years, ~~years~~ prior to this, and I recognize the value of good documentation and, in this case,

foresaw the possibility^{ies} because I genuinely thought of this as a unique idea which we would want to pursue, so I took the precautions which I thought were necessary. *

MR. WELSH: I think we are beyond five o'clock, so let's adjourn for the day and continue tomorrow at nine-thirty in the morning. Also I want to ask about the - how you were coming on your effort to segregate those documents which we asked you to bring to the deposition? Specifically those documents which were listed in your responses to our request for production as not being produced for the attorney-client privilege or work product claim. You were going to undertake that effort last night, I understood.

MR. WILLIAMS: Yes, I did undertake to do it last night and I have completed part of it, but I have not completed all of it yet.

MR. WELSH: When did you think you might have that completed?

MR. WILLIAMS: I can't say

for certain that we will have it done by tomorrow, but I think by the resumption of the depositions in January we will.

MR. WELSH: And I believe we included in that the documents which were described in the response to Interrogatory No. 12, that included some that were not those listed.

MR. WILLIAMS: Those listed documents.

MR. WELSH: That is right.

MR. WILLIAMS: That is my understanding.

MR. WELSH: Now, we also requested yesterday that when those documents are accumulated, that those be noted which referred to the witnesses, either as addressers, addressees, receiving copies or named in the body; and could we also have that information prior to the resumption?

MR. WILLIAMS: I can't recall

that you specifically made that request.

MR. WELSH: I didn't put it exactly in those words, but I know at first I said

just received on the sendor or sendee or receiving
copies and then I added a portion about being
named in the body.

MR. WILLIAMS: We can supply
you with that information prior to January 6.

MR. WELSH: Good; thank you.

(Whereupon, the deposition in the above-entitled
matter was continued until November 26, 1975,
commencing at ten o'clock in the forenoon.)

Ralph H. Sawyer

Depoent

THE STATE OF NEW HAMPSHIRE)
COUNTY OF Hillsborough) SS.

Subscribed and sworn to before me this 10th

day of May 19 76.

Marilyn E. Trapalis
~~Justice of the Peace and/or~~
Notary Public

Marilyn E. Trapalis
Notary Public

My Comm. Expires March 19, 1980